# BUSA 3200: Worksheet on Interest and Mortgage Loans

This is a ten point supplemental assignment due one week after we finish chapter 5

## Do <u>not</u> start this worksheet until you're asked to do so either in online instruction or in class!

**Congratulations! You've won a moderately large lottery. Being a sensible person, you pay your taxes, perhaps pay off some credit card balances, buy a few nice things for yourself, but save the rest for investment.**

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|---|---|
| 1. What is the amount of your investable lottery winnings? **(You will be furnished with this amount.)** | 219,303 |
| 2. What average annual rate of return do you believe you can earn on your investment? **<u>At the bottom of the page, state why you chose this rate.</u>** | 15% |
| 3. If you earn you expected return and make no withdrawals, how much will you have in 30 years? | 14,520,440.23 |
| 4. How much total interest will you have earned? | ~~[illegible]~~ 14,301,137 |
| 5. How much average interest have you earned each year? | ~~[illegible]~~ 476,704.57 |
| 6. Suppose you retire in thirty years and put your investment into an annuity paying 5% annually. You expect to live another 30 years. How much can you then take out each year before you exhaust your investment? | 944,575 |

**But wait!! Suddenly you find your dream house, and it costs exactly the amount you have to invest from line 1. And since you have the cash, you don't even have to take out a mortgage! But you still wonder whether it might be better to hold on to the cash and take out a mortgage after all.**

| | |
|---|---|
| 7. 30 Year Mortgage Rate | **Please use 4.5%.** |
| 8. Monthly Mortgage Payment | ~~[illegible]~~ 1290 |
| 9. Total Amount paid | |
| 10. Total interest Paid | |
| 11. Average Interest per Year | |

**On a separate page, tell me your decision. Will you take out a mortgage or pay cash for the house? Tell me your reasoning in making your decision, and discuss the risks you face. I anticipate an answer of two or three paragraphs, not exceeding a typed page.**

A good return on investment of 15% for an active investor looking for a solid annual return would consider 15% aggresive, but certainly acheivable. At 12% it is a bit more conservative and my intial thoughts were to play it safe, however, after reconsidering my initial rate of 3.5%~5%, I found the investment would not have much gain or activity.